

THE ASTROPHYSICAL JOURNAL
CONTENTS OF VOLUME 586, PART 1

2003 MARCH 20, NUMBER 1

	<i>Page</i>
THREE EPOCHS OF STAR FORMATION IN THE HIGH-REDSHIFT UNIVERSE <i>Jonathan Mackey, Volker Bromm, & Lars Hernquist</i>	1
THE FAILURE OF SELF-INTERACTING DARK MATTER TO SOLVE THE OVERABUNDANCE OF DARK SATELLITES AND THE SOFT CORE QUESTION <i>Elena D'Onghia & Andreas Burkert</i>	12
THE MAGNESIUM-VELOCITY DISPERSION RELATION AND THE GENESIS OF EARLY-TYPE GALAXIES <i>Guy Worthey & Maela Collobert</i>	17
PEARSON-READHEAD SURVEY SOURCES. II. THE LONG-TERM CENTIMETER-BAND TOTAL FLUX AND LINEAR POLARIZATION PROPERTIES OF A COMPLETE RADIO SAMPLE <i>M. F. Aller, H. D. Aller, & P. A. Hughes</i>	33
THE BALDWIN EFFECT AND BLACK HOLE ACCRETION: A SPECTRAL PRINCIPAL COMPONENT ANALYSIS OF A COMPLETE QUASAR SAMPLE <i>Zhaohui Shang, Beverley J. Wills, Edward L. Robinson, D. Wills, Ari Laor, Bingrong Xie, & Juntao Yuan</i>	52
LEPTON ACCELERATION BY RELATIVISTIC COLLISIONLESS MAGNETIC RECONNECTION <i>D. A. Larrabee, R. V. E. Lovelace, & M. M. Romanova</i>	72
NEUTRAL BEAMS FROM BLAZAR JETS <i>Armen M. Atoyan & Charles D. Dermer</i>	79
USING MULTIWAVELENGTH OBSERVATIONS TO DETERMINE THE BLACK HOLE MASS AND ACCRETION RATE IN THE TYPE 1 SEYFERT GALAXY NGC 5548 <i>James Chiang & Omer Blaes</i>	97
AZIMUTHAL AND KINEMATIC SEGREGATION OF NEUTRAL AND MOLECULAR GAS IN ARP 118: THE YIN-YANG GALAXY NGC 1144 <i>P. N. Appleton, V. Charmandaris, Yu Gao, Tom Jarrett, & M. A. Bransford</i>	112
DETECTION OF X-RAY EMISSION FROM THE EASTERN RADIO LOBE OF PICTOR A <i>Paola Grandi, Matteo Guainazzi, Laura Maraschi, Raffaella Morganti, Roberto Fusco-Femiano, Mariateresa Fiocchi, Lucia Ballo, & Fabrizio Tavecchio</i>	123
KECK SPECTROSCOPY AND HUBBLE SPACE TELESCOPE IMAGING OF GRB 000926: PROBING A HOST GALAXY AT $z = 2.038$ <i>S. Castro, T. J. Galama, F. A. Harrison, J. A. Holtzman, J. S. Bloom, S. G. Djorgovski, & S. R. Kulkarni</i>	128
CHANDRA OBSERVATIONS OF A2029: THE DARK MATTER PROFILE DOWN TO BELOW $0.01 r_{\text{vir}}$ IN AN UNUSUALLY RELAXED CLUSTER \odot <i>Aaron D. Lewis, David A. Buote, & John T. Stocke</i>	135
DARK MATTER WITHIN HIGH SURFACE BRIGHTNESS SPIRAL GALAXIES \odot <i>Thilo Kranz, Adrienne Slyz, & Hans-Walter Rix</i>	143
ON THE SPIRAL STRUCTURE OF NGC 2915 AND DARK MATTER <i>F. S. Masset & M. Bureau</i>	152
THE MAGELLANIC STREAM, HIGH-VELOCITY CLOUDS, AND THE SCULPTOR GROUP \odot <i>Mary E. Putman, Lister Staveley-Smith, Kenneth C. Freeman, Brad K. Gibson, & David G. Barnes</i>	170
SELECTION OF METAL-POOR GIANT STARS USING THE SLOAN DIGITAL SKY SURVEY PHOTOMETRIC SYSTEM <i>Amina Helmi, Željko Ivezić, Francisco Prada, Laura Pentericci, Constance M. Rockosi, Donald P. Schneider, Eva K. Grebel, Daniel Harbeck, Robert H. Lupton, James E. Gunn, Gillian R. Knapp, Michael A. Strauss, & Jonathan Brinkmann</i>	195
A CRITICAL EXAMINATION OF HALO WHITE DWARF CANDIDATES <i>P. Bergeron</i>	201
X-RAY EMISSION FROM MULTIPHASE SHOCK IN THE LARGE MAGELLANIC CLOUD SUPERNOVA REMNANT N49 <i>Sangwook Park, David N. Burrows, Gordon P. Garmire, John A. Nousek, John P. Hughes, & Rosa Murphy Williams</i>	210
STRUCTURE OF THE H I NEAR THE NORTHEAST LIMB OF THE CYGNUS LOOP <i>D. A. Leahy</i>	224

	Page
A FAR ULTRAVIOLET SPECTROSCOPIC EXPLORER SURVEY OF MOLECULAR HYDROGEN IN INTERMEDIATE-VELOCITY CLOUDS IN THE MILKY WAY HALO <i>Philipp Richter, Bart P. Wakker, Blair D. Savage, & Kenneth R. Sembach</i>	230
IONIZED GAS IN THE FIRST 10 KILOPARSECS OF THE INTERSTELLAR GALACTIC HALO <i>J. Christopher Howk, Kenneth R. Sembach, & Blair D. Savage</i>	249
AN ULTRAHIGH-RESOLUTION SURVEY OF THE INTERSTELLAR ${}^7\text{Li}/{}^6\text{Li}$ ISOTOPE RATIO IN THE SOLAR NEIGHBORHOOD <i>David C. Knauth, S. R. Federman, & David L. Lambert</i>	268
THE DYNAMICAL STATE OF BARNARD 68: A THERMALLY SUPPORTED, PULSATING DARK CLOUD <i>Charles J. Lada, Edwin A. Bergin, João F. Alves, & Tracy L. Huard</i>	286
SPATIAL STUDY WITH THE VERY LARGE TELESCOPE OF A NEW RESOLVED EDGE-ON CIRCUMSTELLAR DUST DISK DISCOVERED AT THE PERIPHERY OF THE ρ OPHIUCHI DARK CLOUD <i>N. Grosso, J. Alves, K. Wood, R. Neuhauser, T. Montmerle, & J. E. Bjorkman</i>	296
EXPANSION OF THE R4 H ₂ O MASER ARC NEAR CEPHEUS A HW2 <i>J. F. Gallimore, R. J. Cool, M. D. Thornley, & J. McMullin</i>	306
SHAPING PROTO-PLANETARY AND YOUNG PLANETARY NEBULAE WITH COLLIMATED FAST WINDS \oplus <i>Chin-Fei Lee & Raghvendra Sahai</i>	319
DETECTION OF HCN DIRECT ℓ -TYPE TRANSITIONS PROBING HOT MOLECULAR GAS IN THE PROTO-PLANETARY NEBULA CRL 618 <i>S. Thorwirth, F. Wyrowski, P. Schilke, K. M. Menten, S. Brünken, H. S. P. Müller, & G. Winnewisser</i>	338
PHYSICAL CONDITIONS IN THE PROTO-PLANETARY NEBULA CRL 618 DERIVED FROM OBSERVATIONS OF VIBRATIONALLY EXCITED HC ₃ N <i>F. Wyrowski, P. Schilke, S. Thorwirth, K. M. Menten, & G. Winnewisser</i>	344
RELATIVISTIC JETS IN COLLAPSARS <i>Weiqun Zhang, S. E. Woosley, & A. I. MacFadyen</i>	356
INTERCHANGE METHOD IN COMPRESSIBLE MAGNETIZED COUETTE FLOW: MAGNETOROTATIONAL AND MAGNETOCONVECTIVE INSTABILITIES <i>Dimitris M. Christodoulou, John Contopoulos, & Demosthenes Kazanas</i>	372
EDDINGTON LIMIT AND RADIATIVE TRANSFER IN HIGHLY INHOMOGENEOUS ATMOSPHERES <i>Mateusz Ruszkowski & Mitchell C. Begelman</i>	384
TWO-DIMENSIONAL MONTE CARLO/FOKKER-PLANCK SIMULATIONS OF FLARES IN ACCRETION DISK CORONA MODELS \oplus <i>M. Böttcher, D. R. Jackson, & E. P. Liang</i>	389
r -MODES OF NEUTRON STARS WITH SUPERFLUID CORES <i>Umin Lee & Shijun Yoshida</i>	403
X-RAY TEMPORAL PROPERTIES OF XTE J1650–500 DURING OUTBURST DECAY <i>E. Kalemci, J. A. Tomsick, R. E. Rothschild, K. Pottschmidt, S. Corbel, R. Wijnands, J. M. Miller, & P. Kaaret</i>	419
MODELING ACCRETIONAL HEATING IN DWARF NOVAE <i>Patrick Godon & Edward M. Sion</i>	427
LATITUDE-DEPENDENT EFFECTS IN THE STELLAR WIND OF η CARINAE <i>Nathan Smith, Kris Davidson, Theodore R. Gull, Kazunori Ishibashi, & D. John Hillier</i>	432
ANGULAR RADII OF STARS VIA MICROLENSING <i>B. Scott Gaudi, David S. Graff, & Cheongho Han</i>	451
ON THE ROTATIONAL EVOLUTION OF SOLAR- AND LATE-TYPE STARS, ITS MAGNETIC ORIGINS, AND THE POSSIBILITY OF STELLAR GYROCHRONOLOGY <i>Sydney A. Barnes</i>	464
MAGNETIC FIELDS IN MASSIVE STARS. II. THE BUOYANT RISE OF MAGNETIC FLUX TUBES THROUGH THE RADIATIVE INTERIOR <i>K. B. MacGregor & J. P. Cassinelli</i>	480
HIGH-RESOLUTION CHANDRA SPECTROSCOPY OF τ SCORPII: A NARROW-LINE X-RAY SPECTRUM FROM A HOT STAR <i>David H. Cohen, Geneviève E. de Messières, Joseph J. MacFarlane, Nathan A. Miller, Joseph P. Cassinelli, Stanley P. Owocki, & Duane A. Liedahl</i>	495
MEASUREMENT OF THE EUROPIUM ISOTOPE RATIO FOR THE EXTREMELY METAL POOR, r -PROCESS-ENHANCED STAR CS 31082-001 <i>Wako Aoki, Satoshi Honda, Timothy C. Beers, & Christopher Sneden</i>	506

CONTENTS

v

	Page
BINARITY IN BROWN DWARFS: T DWARF BINARIES DISCOVERED WITH THE HUBBLE SPACE TELESCOPE WIDE FIELD PLANETARY CAMERA 2 <i>Adam J. Burgasser, J. Davy Kirkpatrick, I. Neill Reid, Michael E. Brown, Cherie L. Miskey, & John E. Gizis,</i>	512
PROBING STRUCTURES OF DISTANT EXTRASOLAR PLANETS WITH MICROLENSING <i>B. Scott Gaudi, Heon-Young Chang, & Cheongho Han</i>	527
ORBITAL MIGRATION AND MASS ACCRETION OF PROTOPLANETS IN THREE-DIMENSIONAL GLOBAL COMPUTATIONS WITH NESTED GRIDS © <i>Gennaro D'Angelo, Willy Kley, & Thomas Henning</i>	540
PROMINENCE ERUPTIONS AND CORONAL MASS EJECTION: A STATISTICAL STUDY USING MICROWAVE OBSERVATIONS © <i>N. Gopalswamy, M. Shimojo, W. Lu, S. Yashiro, K. Shibasaki, & R. A. Howard</i>	562
THE LONG-TERM EVOLUTION OF AR 7978: THE SCALINGS OF THE CORONAL PLASMA PARAMETERS WITH THE MEAN PHOTOSPHERIC MAGNETIC FIELD <i>L. van Driel-Gesztelyi, P. Démoulin, C. H. Mandrini, L. Harra, & J. A. Klimchuk</i>	579
THE LONG-TERM EVOLUTION OF AR 7978: TESTING CORONAL HEATING MODELS <i>P. Démoulin, L. van Driel-Gesztelyi, C. H. Mandrini, J. A. Klimchuk, & L. Harra</i>	592
THE EFFECTS OF LOW- AND HIGH-ENERGY CUTOFFS ON SOLAR FLARE MICROWAVE AND HARD X-RAY SPECTRA <i>Gordon D. Holman</i>	606
CAUSE OF PROTON DEPLETION IN SOLAR IMPULSIVE PARTICLE EVENTS <i>K. Ohki</i>	617
EVOLUTION OF CONJUGATE FOOTPOINTS INSIDE FLARE RIBBONS DURING A GREAT TWO-RIBBON FLARE ON 2001 APRIL 10 <i>Ayumi Asai, Takako T. Ishii, Hiroki Kurokawa, Takaaki Yokoyama, & Masumi Shimojo</i>	624
INJECTION OF MAGNETIC ENERGY AND MAGNETIC HELICITY INTO THE SOLAR ATMOSPHERE BY AN EMERGING MAGNETIC FLUX TUBE <i>T. Magara & D. W. Longcope</i>	630
TEMPORAL VARIATION OF ANGULAR MOMENTUM IN THE SOLAR CONVECTION ZONE © <i>R. Komm, R. Howe, B. R. Durney, & F. Hill</i>	650
NUMERICAL MODELING OF THE SOLAR TACHOCLINE. II. FORCED TURBULENCE WITH IMPOSED SHEAR <i>Mark S. Miesch</i>	663
FAST-DYNAMO ACTION FOR A FAMILY OF PARAMETERIZED FLOWS <i>S. E. M. Tanner & D. W. Hughes</i>	685
ERRATUM: "ERRATUM: DETECTION OF A SUPER-STAR CLUSTER AS THE IONIZING SOURCE IN THE LOW-LUMINOSITY ACTIVE GALACTIC NUCLEUS NGC 4303" (ApJ, 582, 1269 [2003]) <i>Luis Colina, Rosa Gonzalez Delgado, J. Miguel Mas-Hesse, Claus Leitherer, & Elena Jiménez Bailón</i>	692
2003 APRIL 1, NUMBER 2	
REIONIZATION OF HYDROGEN AND HELIUM BY EARLY STARS AND QUASARS <i>J. Stuart B. Wyithe & Abraham Loeb</i>	693
IONIZATION HISTORY OF THE COSMIC PLASMA IN THE LIGHT OF THE RECENT COSMIC BACKGROUND IMAGER AND FUTURE PLANCK DATA <i>A. G. Doroshkevich, I. P. Naselsky, P. D. Naselsky, & I. D. Novikov</i>	709
DEPROJECTING DENSITIES FROM ANGULAR CROSS-CORRELATIONS <i>Daniel J. Eisenstein</i>	718
SURVEYS OF GALAXY CLUSTERS WITH THE SUNYAEV-ZEL'DOVICH EFFECT <i>A. E. Schulz & Martin White</i>	723
DETERMINING TANGENTIAL PECULIAR VELOCITIES OF CLUSTERS OF GALAXIES USING GRAVITATIONAL LENSING <i>Sándor M. Molnár & Mark Birkinshaw</i>	731
CLUSTER-CLUSTER MICROLENSING AS A PROBE OF INTRACLUSTER STARS, MACHOs, AND REMNANTS OF THE FIRST-GENERATION STARS <i>Tomonori Totani</i>	735
THE LAS CAMPANAS INFRARED SURVEY. IV. THE PHOTOMETRIC REDSHIFT SURVEY AND THE REST-FRAME R-BAND GALAXY LUMINOSITY FUNCTION AT $0.5 \leq z \leq 1.5$ <i>Hsiao-Wen Chen, Ronald O. Marzke, Patrick J. McCarthy, P. Martini, R. G. Carlberg, S. E. Persson, A. Bunker, C. R. Bridge, & R. G. Abraham</i>	745

	Page
HUBBLE SPACE TELESCOPE WFPC2 MORPHOLOGIES OF K-SELECTED EXTREMELY RED GALAXIES <i>Lin Yan & David Thompson</i>	765
MORPHOLOGICAL AND KINEMATIC PROPERTIES OF DISK GALAXIES PERTURBED BY A SATELLITE <i>R. Chan & S. Junqueira</i>	780
ESTIMATING STAR FORMATION RATES FROM INFRARED AND RADIO LUMINOSITIES: THE ORIGIN OF THE RADIO-INFRARED CORRELATION [ⓔ] <i>Eric F. Bell</i>	794
THE LOW-MASS X-RAY BINARY-GLOBULAR CLUSTER CONNECTION. II. NGC 4472 X-RAY SOURCE PROPERTIES AND SOURCE CATALOGS [ⓔ] <i>Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf</i>	814
CHANDRA X-RAY OBSERVATIONS OF NGC 1316 (FORNAX A) <i>Dong-Woo Kim & G. Fabbiano</i>	826
ROSAT HRI INVESTIGATION OF THE NGC 507 X-RAY HALO [ⓔ] <i>M. Paolillo, G. Fabbiano, G. Peres, & D.-W. Kim</i>	850
IS THERE REALLY A BLACK HOLE AT THE CENTER OF NGC 4041? CONSTRAINTS FROM GAS KINEMATICS <i>A. Marconi, D. J. Axon, A. Capetti, W. Maciejewski, J. Atkinson, D. Batcheldor, J. Binney, M. Carollo, L. Dressel, H. Ford, J. Gerssen, M. A. Hughes, D. Macchetto, M. R. Merrifield, C. Scarlata, W. Sparks, M. Stiavelli, Z. Tsvetanov, & R. P. van der Marel</i>	868
CO ($J = 7-6$) OBSERVATIONS OF NGC 253: COSMIC-RAY-HEATED WARM MOLECULAR GAS <i>C. M. Bradford, T. Nikola, G. J. Stacey, A. D. Bolatto, J. M. Jackson, M. L. Savage, J. A. Davidson, & S. J. Higdon</i>	891
OPTICAL SPECTROSCOPY AND IONIZATION MODELS OF THE DIFFUSE IONIZED GAS IN M33, M51/NGC 5195, AND M81 <i>Charles G. Hoopes & René A. M. Walterbos</i>	902
ULTRAVIOLET-OPTICAL PIXEL MAPS OF FACE-ON SPIRAL GALAXIES: CLUES FOR DYNAMICS AND STAR FORMATION HISTORIES <i>Paul B. Eskridge, Jay A. Frogel, Violet A. Taylor, Rogier A. Windhorst, Stephen C. Odewahn, Claudia A. T. C. Chiarenza, Christopher J. Conselice, Richard de Grijs, Lynn D. Matthews, Robert W. O'Connell, & John S. Gallagher III</i>	923
THE STELLAR CONTENT OF HENIZE 2-10 FROM SPACE TELESCOPE IMAGING SPECTROGRAPH ULTRAVIOLET SPECTROSCOPY <i>Rupali Chandar, Claus Leitherer, Christy Tremonti, & Daniela Calzetti</i>	939
RECONSTRUCTING A CEPHEID LIGHT CURVE WITH FOURIER TECHNIQUES. I. THE FOURIER EXPANSION AND INTERRELATIONS <i>Chow-Choong Ngeow, Shashi M. Kanbur, Sergei Nikolaev, Nial R. Tanvir, & Martin A. Hendry</i>	959
AN X-RAY INVESTIGATION OF THE NGC 346 FIELD IN THE SMALL MAGELLANIC CLOUD. II. THE FIELD POPULATION <i>Y. Nazé, J. M. Hartwell, I. R. Stevens, J. Manfroid, S. Marchenko, M. F. Corcoran, A. F. J. Moffat, & G. Skalkowski</i>	983
CONSTRAINTS ON THE IONIZATION BALANCE OF HOT-STAR WINDS FROM FUSE OBSERVATIONS OF O STARS IN THE LARGE MAGELLANIC CLOUD [ⓔ] <i>D. Massa, A. W. Fullerton, G. Sonneborn, & J. B. Hutchings</i>	996
HIGHLY IONIZED GAS IN THE GALACTIC HALO: A FUSE SURVEY OF O VI ABSORPTION TOWARD 22 HALO STARS <i>J. Zsargó, K. R. Sembach, J. C. Howk, & B. D. Savage</i>	1019
CHALLENGING COSMIC-RAY PROPAGATION WITH ANTIPROTONS: EVIDENCE FOR A "FRESH" NUCLEI COMPONENT? <i>Igor V. Moskalenko, Andrew W. Strong, Stepan G. Mashnik, & Jonathan F. Ormes</i>	1050
THE MILLENNIUM ARECIBO 21 CENTIMETER ABSORPTION-LINE SURVEY. II. PROPERTIES OF THE WARM AND COLD NEUTRAL MEDIA [ⓔ] <i>Carl Heiles & T. H. Troland</i>	1067
DEUTERIUM TOWARD TWO MILKY WAY DISK STARS: PROBING EXTENDED SIGHT LINES WITH THE FAR ULTRAVIOLET SPECTROSCOPIC EXPLORER <i>Charles G. Hoopes, Kenneth R. Sembach, Guillaume Hébrard, H. Warren Moos, & David C. Knauth</i>	1094
CH, CO, AND $E(B-V)$ AS MOLECULAR GAS TRACERS IN A TRANSLUCENT CLOUD <i>Loris Magnani, Raymond J. Chastain, Hyekyung Clarisse Kim, Dap Hartmann, Anthony T. Truong, & Patrick Thaddeus</i>	1111
ON THE VARIATION OF DEUTERIUM AND OXYGEN ABUNDANCES IN THE LOCAL INTERSTELLAR MEDIUM <i>Gary Steigman</i>	1120

CONTENTS

vii

Page

INTERACTIONS BETWEEN A BRIGHT YOUNG STELLAR OBJECT AND THE MIDCOURSE SPACE EXPERIMENT INFRARED-DARK CLOUD G79.3+0.3: AN EARLY STAGE OF TRIGGERED STAR FORMATION? <i>R. O. Redman, P. A. Feldman, F. Wyrowski, S. Côté, S. J. Carey, & M. P. Egan</i>	1127
DETECTIONS OF ROVIBRATIONAL H ₂ EMISSION FROM THE DISKS OF T TAURI STARS <i>Jeffrey S. Bary, David A. Weintraub, & Joel H. Kastner</i>	1136
A COMPREHENSIVE STUDY OF THE L1551 IRS 5 BINARY SYSTEM <i>Mayra Osorio, Paola D'Alessio, James Muzerolle, Nuria Calvet, & Lee Hartmann</i>	1148
CHANDRA CCD IMAGERY OF THE NORTHEAST AND NORTHWEST LIMBS OF SN 1006 <i>Knox S. Long, Stephen P. Reynolds, John C. Raymond, P. Frank Winkler, Kristy K. Dyer, & Robert Petre</i>	1162
FAR-ULTRAVIOLET AND H α SPECTROSCOPY OF SNR 0057-7226 IN THE SMALL MAGELLANIC CLOUD H II REGION N66 <i>Charles W. Danforth, Ravi Sankrit, William P. Blair, J. Christopher Howk, & You-Hua Chu</i>	1179
DETECTABILITY OF GRAVITATIONAL WAVES FROM SN 1987A <i>Giovanni Santostasi, Warren Johnson, & Juhan Frank</i>	1191
DETERMINATION OF PRIMORDIAL METALLICITY AND MIXING IN THE TYPE II-P SUPERNOVA 1993W © <i>E. Baron, Peter E. Nugent, David Branch, Peter H. Hauschildt, M. Turatto, & E. Cappellaro</i>	1199
SMALL-SCALE CLUSTERING IN THE ISOTROPIC ARRIVAL DISTRIBUTION OF ULTRA-HIGH-ENERGY COSMIC RAYS AND IMPLICATIONS FOR THEIR SOURCE CANDIDATES <i>Hiroyuki Yoshiguchi, Shigehiro Nagataki, Sin-ya Tsubaki, & Katsuhiko Sato</i>	1211
A SEARCH FOR CORRELATIONS OF TeV GAMMA RAYS WITH ULTRA-HIGH-ENERGY COSMIC RAYS <i>C. W. Akerlof, S. Biller, P. Boyle, J. Buckley, D. A. Carter-Lewis, M. Catanese, M. F. Cawley, V. Connaughton, D. J. Fegan, J. Finley, J. Gaidos, A. M. Hillas, F. Krennrich, R. C. Lamb, R. Lessard, J. McEnery, G. Mohanty, N. A. Porter, J. Quinn, A. Rodgers, H. J. Rose, F. Samuelson, M. S. Schubnell, G. Sembroski, R. Srinivasan, T. C. Weekes, & J. Zweerink</i>	1232
FAST X-RAY TRANSIENTS AND THEIR CONNECTION TO GAMMA-RAY BURSTS <i>Vadim A. Arefiev, William C. Priedhorsky, & Konstantin N. Borozdin</i>	1238
GAMMA-RAY BURSTS FROM DELAYED COLLAPSE OF NEUTRON STARS TO QUARK MATTER STARS <i>Z. Berezhiani, I. Bombaci, A. Drago, F. Frontera, & A. Lavagno</i>	1250
NUCLEOSYNTHESIS IN GAMMA-RAY BURST ACCRETION DISKS <i>Jason Pruet, S. E. Woosley, & R. D. Hoffman</i>	1254
HIGH-FREQUENCY QUASI-PERIODIC OSCILLATIONS IN THE BLACK HOLE X-RAY TRANSIENT XTE J1650-500 <i>Jeroen Homan, Marc Klein-Wolt, Sabrina Rossi, Jon M. Miller, Rudy Wijnands, Tomaso Belloni, Michiel van der Klis, & Walter H. G. Lewin</i>	1262
STABILITY OF ACCRETION DISKS AROUND ROTATING BLACK HOLES: A PSEUDO-GENERAL-RELATIVISTIC FLUID DYNAMICAL STUDY <i>Banibrata Mukhopadhyay</i>	1268
THE EVOLUTION OF LMC X-4 FLARES: EVIDENCE FOR SUPER-EDDINGTON RADIATION Oozing THROUGH INHOMOGENEOUS POLAR CAP ACCRETION FLOWS? <i>Dae-Sik Moon, Stephen S. Eikenberry, & Ira M. Wasserman</i>	1280
A LOCAL ONE-ZONE MODEL OF MAGNETOHYDRODYNAMIC TURBULENCE IN DWARF NOVA DISKS <i>Takayoshi Sano & James M. Stone</i>	1297
s-PROCESS NUCLEOSYNTHESIS IN ASYMPTOTIC GIANT BRANCH STARS: A TEST FOR STELLAR EVOLUTION <i>Maria Lugaro, Falk Herwig, John C. Lattanzio, Roberto Gallino, & Oscar Straniero</i>	1305
MODELING THE FORMATION OF CLOUDS IN BROWN DWARF ATMOSPHERES <i>Curtis S. Cooper, David Sudarsky, John A. Milsom, Jonathan I. Lunine, & Adam Burrows</i>	1320
2-DUST: A DUST RADIATIVE TRANSFER CODE FOR AN AXISYMMETRIC SYSTEM © <i>Toshiya Ueta & Margaret Meixner</i>	1338
COOL COMPANIONS TO WHITE DWARFS FROM THE TWO MICRON ALL-SKY SURVEY SECOND INCREMENTAL DATA RELEASE <i>Stefanie Wachter, D. W. Hoard, Kathryn H. Hansen, Rebecca E. Wilcox, Hilda M. Taylor, & Steven L. Finkelstein</i>	1356
HELIUM CORE WHITE DWARFS IN GLOBULAR CLUSTERS <i>Brad M. S. Hansen, Vassiliki Kalogera, & Frederic A. Rasio</i>	1364

	<i>Page</i>
ECCENTRICITY EVOLUTION OF EXTRASOLAR MULTIPLE PLANETARY SYSTEMS DUE TO THE DEPLETION OF NASCENT PROTOSTELLAR DISKS <i>M. Nagasawa, D. N. C. Lin, & S. Ida</i>	1374
A PLANETARY COMPANION TO HD 40979 AND ADDITIONAL PLANETS ORBITING HD 12661 AND HD 38529 ⓔ <i>Debra A. Fischer, Geoffrey W. Marcy, R. Paul Butler, Steven S. Vogt, Gregory W. Henry, Dimitri Pourbaix, Bernard Walp, Anthony A. Misch, & Jason T. Wright</i>	1394
PHOTOSPHERIC SOURCES AND BRIGHTENING OF THE INTERNETWORK CHROMOSPHERE <i>A. C. Cadavid, J. K. Lawrence, T. E. Berger, & A. Ruzmaikin</i>	1409
CHROMOSPHERIC EVAPORATION AND WARM RAIN DURING A SOLAR FLARE OBSERVED IN HIGH TIME RESOLUTION WITH THE CORONAL DIAGNOSTIC SPECTROMETER ABOARD THE SOLAR AND HELIOSPHERIC OBSERVATORY ⓔ <i>Jeffrey W. Brosius</i>	1417
THE ORIGIN OF HIGH-ENERGY ^3He -RICH SOLAR PARTICLE EVENTS <i>L. Kocharov & J. Torsti</i>	1430
ENHANCEMENT OF RESONANT THERMONUCLEAR REACTION RATES IN EXTREMELY DENSE STELLAR PLASMAS ⓔ <i>Naoki Itoh, Nami Tomizawa, Shinya Wanajo, & Satoshi Nozawa</i>	1436
ERRATUM: "CHANDRA OBSERVATIONS OF VARIABLE EMBEDDED X-RAY SOURCES IN ORION. I. RESOLVING THE ORION TRAPEZIUM" (ApJ, 549, 441 [2001]) <i>N. S. Schulz, C. Canizares, D. Huenemoerder, J. H. Kastner, S. C. Taylor, & E. J. Bergstrom</i>	1441
ERRATUM: "ON PRESSURE GRADIENTS AND RAPID MIGRATION OF SOLIDS IN A NONUNIFORM SOLAR NEBULA" (ApJ, 583, 996 [2003]) <i>Nader Haghighipour & Alan P. Boss</i>	1442

